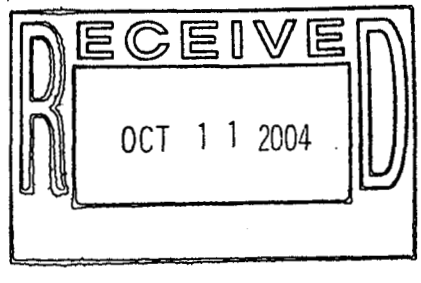
Draft Industrial Area and Buffer Zone Sampling and Analysis Plan Addendum # IABZ-05-01 IHSS Group NE-1 PAC NW-1505 (North Firing Range)

Approval received from the U. S. Environmental Protection Agency

(_____).

Approval letter is contained in the Administrative Record.



October 2004

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ACRONYMS

AL	action level
BZ	Buffer Zone
DOE	U. S. Department of Energy
ER	Environmental Restoration
ER RSOP	Environmental Restoration RFCA Standard Operating Protocol
ft	feet
FY	Fiscal Year
HRR	Historic Release Report
IA	Industrial Area
IABZSAP	Industrial Area and Buffer Zone Sampling and Analysis Plan
IHSS	Individual Hazardous Substance Site
PAC	Potential Area of Concern
PCOC	Potential Contaminant of Concern
RFCA	Rocky Flats Cleanup Agreement
RFETS or Site	Rocky Flats Environmental Technology Site
RSOP	RFCA Standard Operating Protocol
SAP	Sampling and Analysis Plan
VOC	Volatile Organic Compound
UBC	Under Building Contamination
WRW	wildlife refuge worker

1.0 INTRODUCTION

This Industrial Area (IA) and Buffer Zone (BZ) Sampling and Analysis Plan (SAP) (IABZSAP) Addendum #IABZ-05-01 includes Individual Hazardous Substance Site (IHSS) Group-specific information, sampling locations, and potential contaminants of concern (PCOCs) for Potential Area of Concern (PAC) NW-1505, the North Firing Range at the Rocky Flats Environmental Technology Site (RFETS or Site), which is proposed for characterization during Fiscal Year (FY) 2005 (05). This IABZSAP Addendum is a supplement to the IABZSAP (DOE 2004a) and includes data and proposed sampling locations for Potential Area of Concern (PAC) NW-1505. PAC NW-1505 is a part of IHSS Group NE-1 which also consists of the A, B, and C series Ponds. The Ponds are east of the IA. The location of PAC NW-1505 is shown on Figure 1.

2.0 EXISTING PAC AND CHARACTERIZATION INFORMATION

Existing information for the IHSS Group is available in the Annual Update for the Historical Release Report (HRR) (DOE 2001). Where appropriate, personal communication (Devico 2004b) was used to supplement the HRR. Process knowledge indicates that PAC NW-1505 may be the site of lead and other metal contamination associated with the operation of the North Firing Range. There are no existing soil data within the limits of PAC NW-1505.

PAC NW-1505 consists of the RFETS North Firing Range. The Range was constructed in 1983 and upgraded in 1993. The principal firearms used at the range were pistols and rifles, but machine guns up to 0.50 caliber and shotguns were also fired. Shotgun practice was confined to target shooting at paper silhouettes, no clay pigeons were used.

Sources state that no solvent spills occurred at the site. Weapons were cleaned in the range office but all solvents and solvent soaked rags were disposed of in Building 121. No explosives or armor piercing ammunition were used. Occasionally derelict autos were used to simulate hostage situations. These vehicles were purged of fluids prior to use. There is no information on the location of the derelict autos. As of the spring of 2004 there were no significant oil, coolant, or lubricant stains on the floor of the range or in the parking area to the south. The range was rinsed with 200 to 300 gallons of water several times a year. Rinse water and any natural precipitation exit the range to the east through a corrugated metal pipe (approximately 150 to 175 feet long) under the northeastern corner of the berm (Figure 2)

Metals, particularly lead, are the only PCOCs at PAC NW-1505. The PCOCs are listed in Table 1 and were determined based on process knowledge (DOE 2001) and discussions with the range officer (Devico, 2004). Between 1983 and 1993, prior to construction of the existing bullet trap mechanism, rounds fired at targets were caught in soil on the south face of the north berm. This south face was cannibalized as part of construction to update the range in 1993. Inspection of photographs indicates that soil was removed from approximately 10 feet of the south face of the north berm and deposited either on top of or on the north face of the north berm. Additional south face soil may have been used at that time to level the floor area of the range, most likely in the northern part of the building, however this activity has not been documented. From 1983 to 1993 the floor of the range consisted of a rectilinear set of concrete pathways and firing lines with large open areas of pea gravel in between. Lead bullets or fragments may have landed in the pea gravel in the target area. The pea gravel was removed and replaced by asphalt

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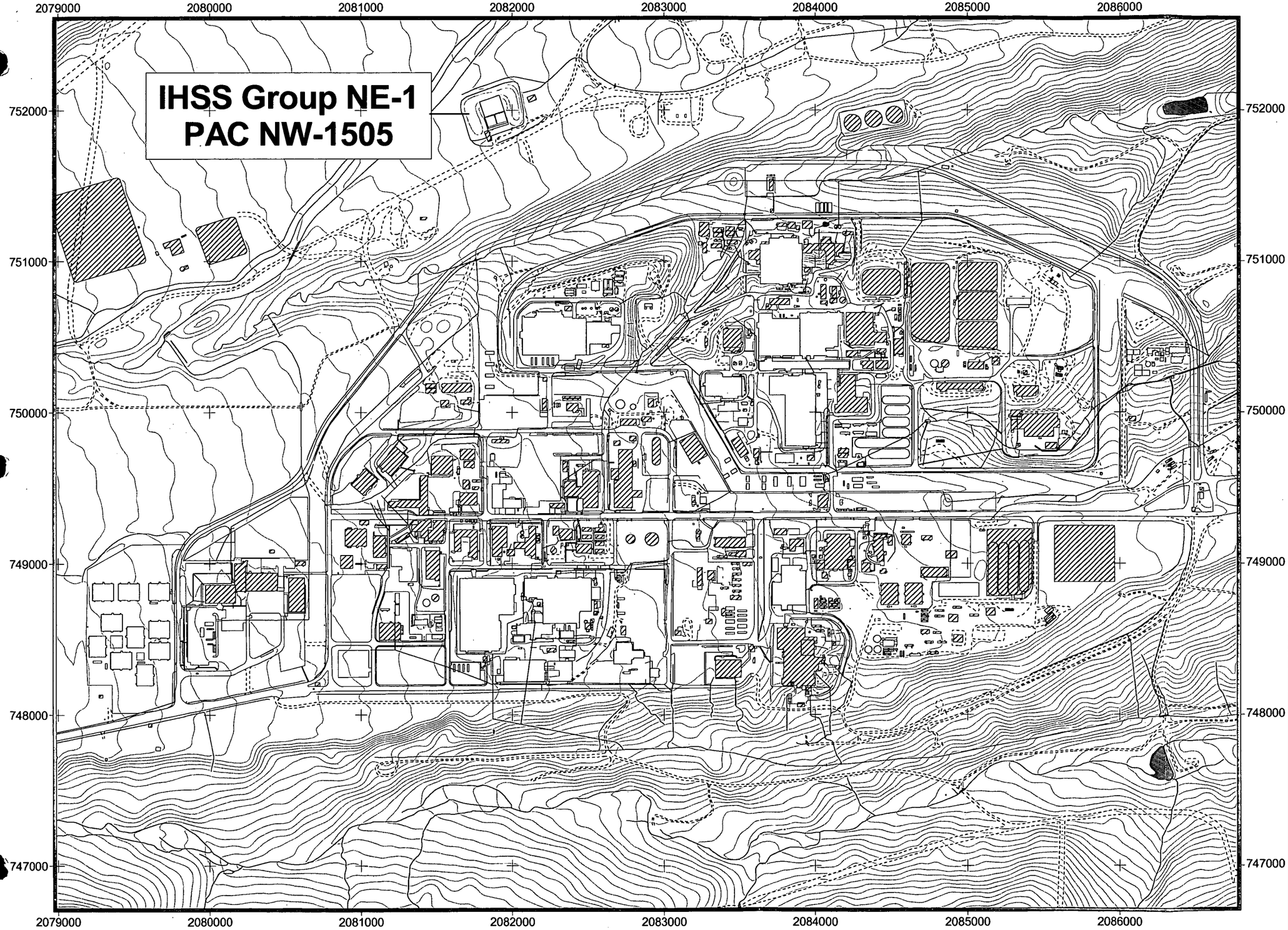

FIGURE 1

IHSS Group NE-1
PAC NW-1505
North Firing Range
General Location

KEY

- PAC NW-1505
- Building demolished
- Building standing
- Pond
- Paved road
- Dirt road
- Stream
- 5-ft topographic contour

DRAFT

N
W E
S

200 0 200 400 600 800 1000 Feet

Scale = 1:7500

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared for: KAISER•HILL COMPANY

Prepared by: RADMS

Date: 9/14/04

File: W/Projects/Fy2004/NW-1505/NW_1505_SAP.apr

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Figure 2
Proposed Sampling Locations

KEY

- Biased Sampling Location
- Statistical Sampling Location
- 2 ft Contour Interval
- PAC NW-1505

Building

- Demolished
- Standing
- Dirt road
- Conex

DRAFT

N

20 0 20 40 Feet

Scale = 1:550
State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
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Prepared for:

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RADMS

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when the range was upgraded. However, there is potential for lead contamination in the soil near the target area.

Table 1
IHSS Group NE-1 PAC NW-1505 Potential Contaminants of Concern

IHSS Group	IHSS/PAC/UBC	PCOCs	Media	Data Sources	Sampling Type
NE-1	PAC NW-1505	Metals	Surface Soil	HRR (DOE 2001) and process knowledge (Devico, 2004)	Statistical and Biased

3.0 SAMPLING

The proposed sampling and analysis specifications for PAC NW-1505 are listed, by sample location, in Table 2. The proposed sampling locations are shown in Figure 2. A total of 25 samples will be collected and analyzed for metals.

Biased samples will be collected along the foot of the southern face of the northern berm. Initially only the A interval (0.0-0.5 feet [ft]) will be collected but if metal wildlife refuge worker (WRW) action level (AL) exceedances are found sampling will step out to the south and/or samples will be collected from deeper intervals.

One biased sample will be collected from each end of the drainage pipe in the northeastern corner of the facility. One sample will be collected from the western side of the berm (inside) and one on the eastern side of the berm (outside). Only the A interval will be collected.

Statistical samples will be collected over the north and south faces of the north berm. Photographs show that the south face of the berm was dug out during the range upgrade and the soil was dumped on top or on the north face of the north berm.

The east and west berms, the gravel parking lots, or the floor of the facility will not be sampled because these were not locations that contained targets. Bullets or bullet fragments would be present in these areas only due to ricochets and the facility was constructed to suppress ricochets. A visual inspection of the entire area was conducted in Spring 2004. No bullets were found. Spent casings were found on that day, but are routinely collected for recycling.

Duplicate samples will be collected at a ratio of 1 in 5 at a minimum. Analysis will be by onsite method SW846-6200. Of the samples collected 1 in 5 will be sent offsite for analysis by method SW-846 6010.

Table 2
PAC NW-1505 Sampling Specifications

IHSS/PAC/UBC Site	Location Code	Easting	Northing	Media	Depth Interval (ft)	Analyte	Onsite Method	Offsite Method	Comment
NW-1505	BV53-000	2081745.327	752109.143	Surface Soil	0.0-0.5	Metals	6200	6010	Statistical at northern berm
	BV53-001	2081780.252	752117.875	Surface Soil	0.0-0.5	Metals	6200	6010	Statistical at northern berm
	BV53-002	2081815.177	752126.607	Surface Soil	0.0-0.5	Metals	6200	6010	Statistical at northern berm
	BV53-003	2081850.102	752135.339	Surface Soil	0.0-0.5	Metals	6200	6010	Statistical at northern berm
	BV53-004	2081885.027	752144.071	Surface Soil	0.0-0.5	Metals	6200	6010	Statistical at northern berm
	BV53-005	2081919.952	752152.803	Surface Soil	0.0-0.5	Metals	6200	6010	Statistical at northern berm
	BW54-000	2081954.877	752161.535	Surface Soil	0.0-0.5	Metals	6200	6010	Statistical at northern berm
	BW54-001	2081989.802	752170.267	Surface Soil	0.0-0.5	Metals	6200	6010	Statistical at northern berm
	BU53-000	2081735.427	752074.531	Surface Soil	0.0-0.5	Metals	6200	6010	Statistical at northern berm
	BV53-006	2081770.352	752083.263	Surface Soil	0.0-0.5	Metals	6200	6010	Statistical at northern berm
	BV53-007	2081805.277	752091.995	Surface Soil	0.0-0.5	Metals	6200	6010	Statistical at northern berm
	BV53-008	2081840.202	752100.727	Surface Soil	0.0-0.5	Metals	6200	6010	Statistical at northern berm
	BV53-009	2081875.127	752109.459	Surface Soil	0.0-0.5	Metals	6200	6010	Statistical at northern berm
	BV53-010	2081910.052	752118.191	Surface Soil	0.0-0.5	Metals	6200	6010	Statistical at northern berm

IHSS/PAC/UBC Site	Location Code	Easting	Northing	Media	Depth Interval (ft)	Analyte	Onsite Method	Offsite Method	Comment
	BW53-000	2081944.976	752126.923	Surface Soil	0.0-0.5	Metals	6200	6010	Statistical at northern berm
	BV53-011	2081760.451	752048.651	Surface Soil	0.0-0.5	Metals	6200	6010	Statistical at northern berm
	BV53-012	2081795.376	752057.383	Surface Soil	0.0-0.5	Metals	6200	6010	Statistical at northern berm
	BV53-013	2081830.301	752066.115	Surface Soil	0.0-0.5	Metals	6200	6010	Statistical at northern berm
	BV53-014	2081865.226	752074.847	Surface Soil	0.0-0.5	Metals	6200	6010	Statistical at northern berm
	BV53-015	2081900.151	752083.579	Surface Soil	0.0-0.5	Metals	6200	6010	Statistical at northern berm
	BV53-016	2081935.076	752092.311	Surface Soil	0.0-0.5	Metals	6200	6010	Statistical at northern berm
	BV53-017	2081787.140	752027.109	Surface Soil	0.0-0.5	Metals	6200	6010	Biased along target line
	BV53-018	2081797.324	752030.861	Surface Soil	0.0-0.5	Metals	6200	6010	Biased along target line
	BV53-019	2081808.044	752034.613	Surface Soil	0.0-0.5	Metals	6200	6010	Biased along target line
	BV53-020	2081819.836	752039.437	Surface Soil	0.0-0.5	Metals	6200	6010	Biased along target line
	BV53-021	2081831.628	752043.189	Surface Soil	0.0-0.5	Metals	6200	6010	Biased along target line
	BV53-022	2081843.420	752048.013	Surface Soil	0.0-0.5	Metals	6200	6010	Biased along target line
	BV53-023	2081856.284	752052.301	Surface Soil	0.0-0.5	Metals	6200	6010	Biased along target line
	BV53-024	2081868.076	752056.589	Surface Soil	0.0-0.5	Metals	6200	6010	Biased along target line
	BV53-025	2081879.332	752060.877	Surface Soil	0.0-0.5	Metals	6200	6010	Biased along target line
	BV53-026	2081891.660	752065.165	Surface Soil	0.0-0.5	Metals	6200	6010	Biased along target line

IHSS/PAC/UBC Site	Location Code	Easting	Northing	Media	Depth Interval (ft)	Analyte	Onsite Method	Offsite Method	Comment
	BV53-027	2081905.060	752070.525	Surface Soil	0.0-0.5	Metals	6200	6010	Biased along target line
	BV53-028	2081917.924	752075.349	Surface Soil	0.0-0.5	Metals	6200	6010	Biased along target line
	BV53-029	2081924.892	752077.493	Surface Soil	0.0-0.5	Metals	6200	6010	Biased along drain line
	BW53-001	2082066.931	752123.588	Surface Soil	0.0-0.5	Metals	6200	6010	Biased along drain line

4.0 REFERENCES

DOE, 2003, Annual Update for the Historical Release Report August 1, 2000 to August 1, 2001; Golden, Colorado, September.

DOE, 2004a, Industrial Area and Buffer Zone Sampling and Analysis Plan, Rocky Flats Environmental Technology Site, Golden, Colorado, June.

Devico, 2004b, Personal communication John Devico to Robert Koehler, Corporate Allocation Services, Inc.; March 23 and 29, 2004.